

Jet Structure TG: introductory thoughts

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for the conveners

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Role of JS Topical Group

- Performance:
 - ➔ quantitative statements about the ability of sPHENIX to make experimental measurements
 - ➔ guidance to Collaboration for design decisions / reviews
- Physics: keep abreast of scientific developments and where our physics program can be most impactful
- Simulations/software:
 - ➔ keep up with the latest updates in the simulations framework (software or geometry)
 - ➔ develop tools for eventual analyzers (e.g. like HF TG)
- Organizational: provide plots for sPHENIX talks & reviews, help with posters & proceedings
- How do we accomplish these effectively with existing person-power?

Work within the TG (and person-power)

1. Calorimeter clustering (Justin, MIT group?)
2. Systematic jet / hadron response studies (Sarah, Megan?)
3. Track/cluster matching (Colorado group?)
4. Particle Flow-style jet reco (Rosi, presentation by Yen-Jie?)
5. Photon identification & performance (volunteer?)
6. Flavor or quenching dependence of response (volunteer?)
 - ➡ interface with HF TG?
7. Fake jet rejection or event mixing studies (volunteer?)
8. Blind unfolding challenges (volunteer?)
9. *Interest in existing or new efforts welcome!*
 - ➡ *New possibility:* Mass / grooming studies (invite Marta to give overview?)

Collaboration Meeting (& QM) preparations

- Intensive meetings over the summer and early fall spurred on by ALD Charge
 - ➔ now want to resume regular activity
- This meeting: updates on some key activities, planning for the future
 - ➔ good organizational resource: https://wiki.bnl.gov/sPHENIX/index.php/Jet_Structure_Topical_Group
- Propose to prepare 2-3 nice plots/“results” to show at Collaboration Meeting next week, possibly:
 - ➔ demonstration of clustering
 - ➔ updated jet / hadron response
 - ➔ jet mass or substructure (some progress from DVP, but no formal update today)